

**REMARKS UNDER 37 CFR § 1.111**

**Formal Matters**

Claims 1-22, 40-50 and 56-60 are pending after entry of the amendments set forth herein.

Claims 15, 16, 21 and 48 are currently withdrawn from consideration.

Claims 1-14, 17-20, 22, 40-47, 49-50 and 56-60 were examined. Claims 1-14, 17-20, 22, 40-47, 49-50 and 56-60 were rejected.

Applicant respectfully requests reconsideration of the application in view of the amendments and remarks made herein.

No new matter has been added.

**The Office Action**

**Claims Rejected Under 35 U.S.C. Section 112, Second Paragraph**

In the Official Action of June 2, 2008, claims 1-14, 17-20, 22, 40-47, 49-50 and 56-60 were rejected under 35 U.S.C. Section 112, second paragraph as being indefinite.

With regard to claims 1, 43 and 56, the Examiner asserted that it was unclear as to whether the graphical representations represent data values of the data items or variations in the data values of the data items.

In response thereto, Applicant has amended claims 1, 43 and 56 above to delete the phrase "variations in".

In view of the above amendments and remarks, the Examiner is respectfully requested to reconsider and withdraw the rejection of claims 1-14, 17-20, 22, 40-47, 49-50 and 56-60 under 35 U.S.C. Section 112, second paragraph, as being indefinite, as being no longer appropriate

**Claims Rejected Under 35 U.S.C. Section 101**

Claims 1-14, 17-20, 22, 40-47, 49-50 and 56-60 were rejected under 35 U.S.C. Section 101 as directed to non-statutory subject matter. The Examiner agreed that the claims provide a tangible and

concrete result, but indicated that the claims encompass a computation method of displaying and manipulating any type of data, which the Examiner considered to be not directed to any practical application. Accordingly, the Examiner concluded that the claims do not satisfy the “useful” prong of the “useful, concrete and tangible” criteria and are therefore not statutory.

Applicant respectfully traverses. M.P.E.P. 2106 (IV) C(2) states that

“For claims including such excluded subject matter to be eligible for patent protection, the claim must be for a practical application of the abstract idea, law of nature, or natural phenomenon. *Diehr*, 450 U.S. at 187, 209 USPQ at 8 (“application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”); *Benson*, 409 U.S. at 71, 175 USPQ at 676 (rejecting formula claim because it “has no substantial practical application”).

A claimed invention is directed to a practical application of a 35 U.S.C. 101 judicial exception when it:

(A) “transforms” an article or physical object to a different state or thing; or

(B) otherwise produces a useful, concrete and tangible result, based on the factors discussed below.

Applicant would point out that the requirements of (A) and (B) above are separated by the word “or”, not by the word and. Accordingly, it is respectfully submitted that if either (A) or (B) is met, then the claimed application is directed to a practical application of a 35 U.S.C. 101 judicial exception. In the instant case, because the claimed invention transforms electronic data into a visually observable physical display of a representation of that electronic data, it is respectfully submitted that the (A) requirement has been met and that the claims do recite a practical application of a 35 U.S.C. 101 judicial exception.

In view of the above remarks, the Examiner is respectfully requested to reconsider and withdraw the rejection of claims 1-14, 17-20, 22, 40-47, 49-50 and 56-60 under 35 U.S.C. Section 101 as directed to non-statutory subject matter, as being inappropriate.

**Claims Rejected Under 35 U.S.C. Section 103 (Warrington et al. in view of Balaban et al. as evidenced by Byrd et al.)**

Claims 1, 43 and 56 were rejected under 35 U.S.C. Section 103 as being unpatentable over Warrington et al, U.S. Patent No. 6,884,578 in view of Balaban et al., U.S. Patent No. 6,185,561 as evidenced by Byrd et al., U.S. Patent No. 5,826,260.

The Examiner asserted that Warrington et al. described inputting data items associated with

entities to be observed, but do not explicitly teach displaying the data in the tables from a relational database that the Examiner asserted Warrington et al. to disclose. The Examiner asserted that Balaban et al. teaches a display screen to display mined expression data and that it would have been obvious to display the manipulated data [of Warrington et al.] to see the results. The Examiner further asserted that it would have been obvious to want to be able to mine data and have different visualization techniques as taught by Balaban et al.

The Examiner admitted that Warrington et al. does not explicitly teach sorting and thus recording the order of the arrangement of the rows of data in an  $n \times m$  matrix based on a comparison of the values of a pseudo-data vector with values of the data items. However, the Examiner asserted that Balaban et al. teaches a query that can be submitted (col. 3, lines 5-11) to the relational database tables wherein it extracts information from a larger  $n \times m$  matrix of data and can display or sort and thus reorder the data, such as those genes where the gene expression value is greater than or equal to 100. The Examiner further asserted that column 5, lines 54-56 of Balaban et al. disclose an expression mining database where the user can query and mine the data, wherein the type of querying can vary depending upon the user and the questions to be answered.

Applicant respectfully submits that neither col. 3, lines 5-11 nor column 5, lines 54-56 of Balaban et al., nor anywhere else in any of the three cited references discloses, teaches or suggests sorting a reordering based upon comparison with a pseudo-data vector as claimed, as Balaban et al. only discloses database mining by querying, which is well-known. To still further clarify this distinction, each of independent claims 1, 43 and 56 to further recite calculating a pseudo data vector. Support for these amendments can be found, for example, at paragraphs [0012]-[0015] of the specification and throughout the specification.

In view of the above amendments and remarks, the Examiner is respectfully requested to reconsider and withdraw the rejection of claims 1, 43 and 56 under 35 U.S.C. Section 103 as being unpatentable over Warrington et al, U.S. Patent No. 6,884,578 in view of Balaban et al., U.S. Patent No. 6,185,561 as evidenced by Byrd et al., U.S. Patent No. 5,826,260.

### **Allowable Subject Matter**

Applicant assumes that by overcoming the grounds of rejection of claims 2-22, 40-42, 44-50 and 57-60, that these claims contain allowable subject matter, as they have not been rejected over the art.

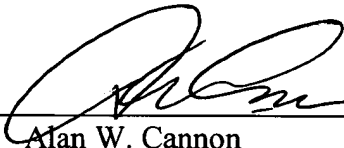
**Conclusion**

Applicant submits that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone the undersigned at 408-736-3554.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-1078, order number 10031032-1.

Respectfully submitted,

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